MAY — JUNE 1984
Seventy-five Cents
VOLUME 75 NO. 2
ISSN 0008-1116

California GARDEN

Olympiad

HORTICULTURE CALENDAR

SAN DIEGO FLORAL ASSOCIATION TOURS

MAY 5

J. PAUL GETTY MUSEUM
Visit the gardens and enjoy the outstanding art collections.
Depart Balboa Park 8:00 a.m. La Jolla 8:30 a.m. $15
Information & Reservations: 232-5762 (Floral Office) or 232-2661 (Jerry Ray)

JUN 2

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Private tour guides. Unusual sale plants available at each stop. Tour: $12.50
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MAY 2, 3

"ART ALIVE — A CELEBRATION OF FLOWERS"
San Diego Museum of Art, Balboa Park, San Diego
(Flower arrangements will remain through Sunday, May 6.)
10:00 a.m. to 5:00 p.m. daily. Adm. $3

MAY 3, 10, 17, 24, 31
SAN DIEGO FLORAL EVENT

THURSDAY WORKSHOP WITH COLLEEN WINCHELL
Free Floral Crafts Instruction — Open to the Public
San Diego Floral Association Garden Center, Balboa Park, San Diego
10:00 a.m. to 3:00 p.m. Information: 479-6433 (Mrs. Winchell)

MAY 5, 6

DOS VALLES GARDEN CLUB STANDARD FLOWER SHOW "LOVE IN BLOOM"
Valley Center Community Church, 29105 Valley Center Rd., Valley Center, Calif.
Sat: 1:00 to 5:00 p.m. Sun: Noon to 5:00 p.m. Free

MAY 5, 6

SAN DIEGO EPIPHYLLUM SOCIETY "GREEN THUMB" SHOW
San Diego Wild Animal Park, San Pasqual Rd., Escondido, Calif.
Sat. & Sun: 9:00 a.m. to 5:00 p.m.

MAY 5, 6

SAN DIEGO BONSAI CLUB 19TH ANNUAL SPRING SHOW
Casadel Prado, Majorca Roon, Balboa Park, San Diego
Sat. & Sun: 10:00 a.m. to 5:00 p.m. Free

MAY 5, 6

OHARA SCHOOL OF IKEBANA, LA JOLLA CHAPTER
"JAPANESE BOY'S DAY WITH FLOWERS"—"TENGO-NO-SEKKU"
La Jolla Square Mall, Community Room (lower level)
Sat. & Sun: 11:00 a.m. to 5:00 p.m. Free

MAY 5, 6

VISTA GARDEN CLUB 41ST ANNUAL FLOWER SHOW "SPRING SONATA"
Vista Brengle Park, East Vista Way at Vale Terrace, Vista, Calif.
Sat: 1:30 to 5:00 p.m. Sun: 10:00 a.m. to 4:00 p.m. Free

MAY 6

QUAIL BOTANICAL GARDEN'S ANNUAL SPRING BAZAAR "FUN & FESTIVAL"
Quail Botanical Garden, Ecke Family Bldg., 230 Quail Garden Dr., Encinitas, Calif.
Sun: 10:00 a.m. to 4:00 p.m. Free

MAY 5, 12, 19, 26

OFFSHOOT BOTANICAL TOURS OF BALBOA PARK
Information and Fee: 297-0289 (Dale Ward)

MAY 11, 12

ESCONDIDO GARDEN CLUB 38TH STANDARD FLOWER SHOW "THE GRECIAN FESTIVAL"
Escondido Mall, 1261 East Valley Parkway, Escondido, Calif.
Fri: 1:00 to 9:00 p.m. Sat: 10:00 a.m. to 5:00 p.m. Free

MAY 12, 13

SAN DIEGUITO GARDEN CLUB 8TH ANNUAL STANDARD FLOWER SHOW
"FLOWERLAND FANTASY"
Quail Botanical Garden, Ecke Family Bldg., 230 Quail Garden Dr., Encinitas, Calif.
Sat: 1:00 to 5:00 p.m. Sun: 10:00 a.m. to 4:00 p.m. Free

MAY 12, 13

SAN DIEGO BROMELIAD SOCIETY "GREEN THUMB" SHOW
San Diego Wild Animal Park, San Pasqual Rd., Escondidto, Calif.
Sat. & Sun: 9:00 a.m. to 5:00 p.m.

MAY 13

SAN DIEGO EPIPHYLLUM SOCIETY 14TH ANNUAL MOTHER'S DAY SHOW
"1984 CALIFORNIA ODYSSEY"
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sun: 11:00 a.m. to 5:00 p.m. Free

MAY 19, 20

SAN DIEGO GERANIUM SOCIETY 12TH ANNUAL SHOW
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sat: Noon to 5:00 p.m. Sun: 10:00 a.m. to 5:00 p.m. Free

MAY 19

NORTH COUNTY ROSE SOCIETY "GREEN THUMB" DISPLAY
San Diego Wild Animal Park, San Pasqual Rd., Escondido, Calif.
Sat: 9:00 a.m. to 5:00 p.m.

MAY 19, 20

POWAY VALLEY GARDEN CLUB STANDARD FLOWER SHOW "SALUTE TO THE OLYMPICS"
Poway Community Center Auditorium, 13094 Bowron Rd., Poway, Calif.
Sat: 2:00 to 5:00 p.m. Sun: Noon to 4:00 p.m. Free

MAY 26, 27

HEARTLAND AFRICAN VIOLET SOCIETY 5TH ANNUAL SHOW
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sat: 1:00 to 5:00 p.m. Sun: 11:00 a.m. to 5:00 p.m. Free

(Continued on page 95)

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ANNOUNCING
SPECIAL JULY—AUGUST 1984 ISSUE
CELEBRATING OUR 75TH ANNIVERSARY

MAY—JUNE 1984

VOLUME 75 NUMBER 3

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FRONT COVER: Drawing of an 'Olympiad' rose and bud by Pat Maley, a free-lance artist, who specializes in botanical drawings, paintings—both black and white and color.

BACK COVER: A dramatic landscaped garden featuring jewel-toned tuberous begonias at the Southern California Exposition (1983).
(Photo courtesy Southern California Exposition.)

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THE HYBRID TEA

An Evolving Flower Form

THOMAS CAIRNS

'PRISTINE' BY JACKSON & PERKINS CO., USA, 1978. (WHITE MASTER-PIECE X FIRST PRIZE) ABSOLUTE CLASSIC BEAUTY, IF ONLY FOR A FEW HOURS. AN EXQUISITE WHITE ROSE WITH A PINK BLUSH ON THE EDGES OF THE PETALS.
(Photo by Jack O'Neil)

When the famous Scottish poet, Robert Burns, immortalized the rose in his sonnet composed in the late 18th century,

"O, my luve is like a red, red rose,
That's newly sprung in June"

he had no perception of what a modern hybrid tea rose might look like. To him, the personification of the rose was most likely a *damascena* or *centifolia* variety.

The hybrid tea rose as an established variety is reported to have made its debut in France some time after 1867. Considerable controversy still exists today as to whether 'La France' introduced in 1867 was indeed the first hybrid tea. Needless to say, the hybrid tea roses have their ancestry in the frost-tender tea roses and through clever hybridization have attained the accepted credentials of being reliably recurrent, elegant of bloom and colorful. This hybridizing departure from the old garden roses has produced over 6000 registered hybrid tea varieties since 1867 with a full panorama of color and blends.

Perhaps the major landmark in the history of the hybrid tea was the production of 'Peace' by Francis Meilland at Antibes in the south of France. Introduced in 1945 in the United States by the Conard Pyle Company, it possessed a high-centered noble bloom,

'CENTURY TWO' BY DAVID L. ARMSTRONG, ARMSTRONG NURSERIES, USA, 1971. (CHARLOTTE ARMSTRONG X DUET) CLEAR PINK URN-SHAPED BUDS AND HIGH CENTERED BLOOMS CARRIED REGALLY ON LONG STOUT STEMS'
(Photo: Jack O'Neil)

pale yellow edged in light pink, glossy deep green foliage, a light scent, fertile, and equally as beautiful as a fully opened bloom. So stunning was this rose that it was chosen by the American Rose Society in 1945 to be given to each delegate attending a United Nations conference in San Francisco. The inscription accompanying each single bloom read as follows:

> *"This is the 'Peace' rose which was christened at the Pacific Rose Society exhibition in Pasadena on the day Berlin fell. We hope that the 'Peace' rose will influence men's thoughts for everlasting world peace."*

'Peace' had heralded the modern era of the hybrid tea. So dramatic was the overwhelming acceptance and praise accorded this variety that its place in history was instantaneous. Hybrid teas had attained a zenith of perfection. From 'Peace' a whole host of daughters and sports were spawned: 'Rose Gaujard' in 1957, 'Eden Rose' in 1953, 'Mischief' in 1961, 'Gold Crown' in 1960, 'Royal Highness' in 1962, 'Chicago Peace' in 1962 and 'Kronenbourg' in 1964. The impact of the introduction of 'Peace' in 1945 set the stage for hybrid teas of the modern times.

In 1971 'Century Two' was introduced and today is still grown and shown at rose shows throughout the United States. Its growth habit personifies many of the desirable qualities of the hybrid tea: upright, tall, fragrant, double, dark green foliage, and thorny. This charming medium pink bloom has the noble symmetry of bloom for exhibition. An elongated peduncle, however, which is characteristic of the variety, effectively enhances the bloom head. It is a bountiful variety with fully opened blooms that last for days and provide a colorful garden display. The intensity of the color is light-fast. For these reasons 'Century Two' has over the last decade become a favorite with both exhibitor and gardener.

In total contrast to the lasting qualities exhibited by 'Century Two,' a white rose called 'Pristine' introduced in 1978 has blooms (18 petals) of classic exhibition beauty, but like youth are "so terribly fleeting." Most rosarians will agree on the absolute perfection of the bloom if only for a duration of a few hours. The variety has extremely vigorous growth habit with thick leathery foliage. All these attributes have understandably won over the rose-buying public. Even a fully opened bloom of 'Pristine' is a masterpiece of perfection. Often quoted as a great rose in the tradition of 'Peace,' its glory may one day be overcome when the hybridizer improves on petal count. When the lifetime of that most perfect stage of bloom (one-half to two-thirds open) is extended to share the symmetry and form, the senses of mankind may be touched to utter praise and glory for the wonders of Nature.

What lies in the future of the hybrid tea? There can be no doubt that advanced technologies will permit a less serendipitous approach to optimizing the desired qualities and speed up the mammoth task of unlocking the rhythm and reason to planned parenthood. Yes, we can all look forward to vast improvements in color, fragrance, growing habits, and longer lasting form.

Thomas Cairns holds a Ph. D. in Chemistry and is an avid amateur rose grower and exhibitor. He is employed as a research chemist by the United States Department of Agriculture in Los Angeles.

ALSTROEMERIA

BARBARA S. JONES

ALSTROEMERIA
INCREASING POPULAR AS A CUT FLOWER, IS NAMED AFTER A SWEDISH FRIEND OF LINNAEUS– KLAS ALSTROM.
(Photo: Kocher Flower Growers)

THE BEAUTIFUL, VIBRANT, jewel colored, daylily-like flowers that made such an impact in the San Diego area last summer were alstroemerias. They 'stole the show' at the Southern California Exposition (the county fair).

Alstroemerias are not a new flower in southern California gardens but have been around for many years in pale hues. Colorful new hybrids, called either Peruvian lilies or Aztec lilies, burst onto the local commercial market in the summer of 1983. This year growers promise that alstroemerias will be available to the home gardener. So, here are some facts, figures, and growing hints about these spectacular flowers.

All sixty species of *Alstroemeria*, members of the amaryllis family Amaryllidaceae, are native to

South America. These summer flowering, herbaceous perennials grow wild along roadsides and in fields. Species are found from the snow line of the Andes mountains to the coastal deserts. Most of the new cultivars have been developed in Europe, primarily Holland and England, as a result of years of interspecific breeding and irradiation to induce mutations. Up until now these 'new' alstroemerias have been primarily available to commercial growers.

Alstroemeria species come in many shades of red and yellow. Hybrids can be separated into two groups, white/yellow and red/orange. Climate is an important factor in the outdoor growing of these plants. The white/yellow require a shorter cold period and a shorter photoperiod for flowering than the red/orange group. The San Diego area climate is almost perfect as all colors do best when the winters are mild and the summer heat is tempered.

The greatest problem the gardener will have is getting the plants started, either by seed or tuber. By purchasing plants from a nursery one can get at least a year closer to blooming. (Plants are available from January through June in 4-inch to two-gallon pots.) At first the flower stalks will be spindly and the flower heads (umbels) will be small. Once established in the garden, the plant will become larger, the stalks will stiffen and grow up to 3 feet tall supporting 6-inch diameter flower heads with as many as thirty blooms. Roots extend at least one and one-half feet deep, which makes the mature plants difficult to transplant. Divisions from old plants often fail to establish themselves.

CULTURE

Alstroemerias are basically sun lovers. They need good drainage and do particularly well in fertile sandy soil. The planting area should be dug deeply and the soil amended to spade depth (about a foot) with a complete garden fertilizer or stable-manure and compost. Some authorities recommend compost and bone meal. The planting bed must be fast draining. (Plants can be successfully grown in deep, over 15 inches, large containers.)

Even though drought tolerant, plant growth for the first few years will be encouraged by frequent, regular watering and applications of fertilizer. Later, plants will need heavy fertilizing only in the spring. Flowers will last longer if plants are kept moist during the blooming season. (Root watering, not overhead.)

For strong stems and more vibrant colors, the light must be bright. Staking of long stems may be needed. The blooming season near the coast can be extended by planting some in partial shade. Cool soil is needed, too. If the soil temperature goes over 60° F. for white/yellow or 70° F. for red/orange the plants will stop flowering. With a mulch, the soil can be kept cool even though the air temperature may reach 90° F. More water will be needed in hot dry weather. The blooming periods range from four to six weeks. To extend this season, individual faded flowers and seed pods should be removed immediately.

Except for a limited amount of cutting flowers, the alstroemerias are a bit 'touchy' about stem and foliage removal. It should not be removed until naturally dead. Non-flowering shoots should never be removed until dry.

Insects and disease are not real problems. During warm weather infestations of aphids and whitefly may occur. As the foliage is delicate, spraying should be done only on overcast days to prevent foliar damage.

A. ligtu and *A. aurantiaca* are the most common species available. Both are natives of Chile.

Besides being beautiful in the garden, alstroemerias are long lasting (two to three weeks) as a cut-flower. One flower stalk can be a whole bouquet. Individual flowers can be wired to make striking corsages, and many a summer bride enjoys these lovely flowers in her bridal bouquet.

Barbara Jones, a member of the staff and former editor of *California Garden*, is a graduate scientist (Botany) and writes for scientific and gardening publications.

JACARANDA MIMOSIFOLIA

Jacaranda is the Latinized Brazilian name for this South American native (*Jacaranda mimosifolia*). A specimen for many seasons, this open-branching tree loses its lacy, fern-like leaves briefly in the late winter and early spring. Clusters of arresting, lavender-blue flowers appear before the new leaves and are followed by distinctive seed pods that look like lumpy, round, brown wafers. The striking color of its flowers, unique to jacaranda, make it one of the best loved exotics in the subtropical climes of California.

HERALDIC ROSE

SHARON SIEGAN

'OLYMPIAD' THE OFFICIAL ROSE OF THE 1984 OLYMPICS WITH ITS LARGE, CLASSIC PURE RED BLOOMS ON LONG STEMS IS WORTHY OF THIS HONOR.
(Photo: Armstrong Nurseries, Inc.)

THE OLYMPIC ROSE, 'Olympiad,' is new this year, an AARS cultivar created to serve as yet another official representative of the upcoming Los Angeles games. Over the years official Olympic choices have proliferated enormously so that they now include almost every product and service commonly used. To date there has been only one Olympic flower—the rose.

Roses are not new to such honors. Historically the rose has served as an emblem decorating the shield of Roman generals signifying honor and distinction. Earlier, Homer records that "Roses adorned the shield of Achilles and the helm of Hector." When knighthood was in flower, the rose flowered too as a symbol of mercy, justice and nobility in thought and deed. This was the romantic age of chivalry, an appropriate choice when custom dictated that milady offer a rose token to her champion, particularly before entering a tournament.

England in particular, has exalted the rose as its national flower. Both the white and the red rose merged to commemorate the 15th century marriage of Henry VII of Lancaster and Elizabeth of York. This emblem was adapted for coinage and as the country's armorial crest. The union of the two ruling houses ushered in an era of peace, but the roses themselves were the symbols of a fraternal power struggle. Shake-

speare places the quarrel between the representative of Henry VI (the weak Lancaster King) and Richard (Duke of York), in a temple garden. That is where York allegedly plucked a white rose and the Lancaster ally a red one, each admonishing his followers to do likewise, thereby exhibiting their loyalties. The resulting civil war is known as the War of the Roses and each rose has remained associated with its respective family branch.

Marriage (if not romance) inspired the addition of the rose to the Great Seal of Scotland. When King James IV of Scotland wed Princess Margaret of England in 1503, the English rose was added to the Scotch thistle. A derivation of this design persists as the official badge of England's "Queen's Colour of the 2nd Battalion Scots Guards."

In America the rose is the official emblem of New York State, the wild rose is the state flower of Iowa, the prairie rose of North Dakota, and the 'American Beauty' rose, appropriately, represents the District of Columbia. Then of course there is the familiar "Yellow Rose of Texas." Unlike the many countries in which the rose stamp was commonly found on coins, the "Rosa Americana," a copper penny circulating during the early 1700 s was the example of the flower in American coinage.

Of all the countries where the rose is venerated, the island of Rhodes stands out. Roses decorate everything from silver spoons to clothes, and have appeared on coins dating back to 400 BC. This is not surprising inasmuch as Rhoda is Greek for rose. One myth has it that Rhodes was the daughter of Aphrodite, goddess of beauty, to whom the rose was sacred. Naturally the island claims the rose as its special emblem.

The rose also has strong Papal links. Because of its religious significance (e.g., the white rose is associated with the Virgin Mary, and red with martyrs' blood), the rose was used as the offical seal or crest of many of the Popes.

The term sub rosa (under the rose) points up another dimension of the rose mystique. This pledge of secrecy has been invoked over the centuries, frequently by the host suspending a carved rose above those meeting together. Although its origins are shrouded, the many legends involve intrique in politics or romance. Perhaps because lovers frequently trysted under a rose bower, the association of discretion arose. The rose has always served as the symbol of the goddess of love, whether she was known as Aphrodite, Venus or her teutonic equivalent, Freyja. Indeed, it was Freyja, whose rose was often carved in tavern ceilings, who was expected, through the code of silence, to protect her devotees from any harm deriving from their liquor loosened tongues. At a later date, tavern owners supporting opposing factions in the War of Roses (with the appropriate rose sign prominently displayed) assured their patrons who were engaged in political plotting, of complete secrecy.

Although thorns do not figure strongly in praise of the rose, yet it is likely that this fierce armor of protection constitutes a major reason for the frequent choice of the rose as an emblem of heraldry. Even the 'Peace' rose, used to celebrate the end of war is not bereft of thorns perhaps to better express the pain and suffering lingering in memory.

Sharon Siegan, an artist-sculptor turned gardener and flower arranger, spends many hours in her garden. While living in Chicago, Illinois, she was a docent at the Oriental Institute, University of Chicago.

A GARDENER'S HINT:

After you have used your last rain water and the Colorado River salts have again begun to buildup in the soil, treat your plants to an epsom salt tonic. Epsom salts (magnesium sulfate) provides the magnesium necessary. S.S.

GEORGE JAMES 1908—1984

George James was a staff member of *California Garden* magazine for the past 23 years. As a retired nurseryman and horticulturist his articles were a valuable source of information for all gardeners. He taught horticulture in adult education and was popular among garden clubs for his "down-to-earth" programs on gardening.

George, no matter how busy, always had time to answer questions about plants and his final words invariably were "It was my pleasure." A.M.

THE LADYBIRD BEETLES

DAVID K. FAULKNER

Ladybug, ladybug, fly away
home,
Your house is on fire, your
children will burn.

LARVAE OF THE MEALYBUG DESTROYER, *CHRYPTOLAEMUS MONTROUZIERI*, ON TREE TRUNK IN BALBOA PARK, SAN DIEGO, CALIF. (Photo: D. K. Faulkner)

COTTONY-CUSHION SCALE, *ICERYA PURCHASI*, THE HOST FOR THE VEDALIA LADYBIRD, *RODOLIA CARDINALIS*. (Photo: A. Taylor)

MANY OF US can recall reciting this poem as a lady "bug" crawled up our finger and flew away. However, did we ever stop to think what this saying really meant? As it turns out, the poem is of northern European origin where it was customary at the conclusion of the summer growing season to burn the previously harvested hop vines, thus destroying insect pests that were feeding on the crop. Unfortunately, since the beneficial larvae of the ladybirds could not escape, they too were killed. What one sees from this example is that even in the early 1800's people were aware of the benefit derived from allowing ladybird beetles to roam freely over their crops. Farmers also discovered that by moving the adult beetles from one area to another aphids and other plant pests could be somewhat controlled. This idea continues today in the form of biological control, a desirable alternative to chemically controlling pests.

Worldwide, over 4000 species of ladybird beetles have been described, including 370 species in the United States. Of the 125 species recorded for California, most are native to this region although

ADULT OF THE CALIFORNIA LADYBIRD BEETLE.
(Photo: A. Taylor)

some have arrived as a direct result of intentional introduction. Placed in the beetle family Coccinellidae, the ladybirds are extremely beneficial, containing only one plant eating exception; the beetles of the genus *Epilachna* which includes the Mexican bean beetle. Ladybirds are best known as aggressive predators of small insects detrimental to plants, attacking members of the order Homoptera which encompasses the mealybugs, hard and soft scales, and the many species of plant "lice" or aphids. The insects' reputation for devouring aphids is in no way exaggerated since the adult females of some species can consume as many as 500 aphids before egg laying begins.

In order to become better acquainted with this family of insects, the following generalized life history is presented.

During its lifetime an individual female coccinellid deposits between 200 and 500 yellowish eggs, either in groups or singly. Eggs are attached to plants already occupied by one or more species of plant lice. The larvae, appearing elongate and slightly compressed with a covering of small spines or tubercles, soon hatch and immediately begin to feed. Normally black in color with reddish or orange dots on the upper surface of the body, the small predators search out and consume 200 to 300 small insects before attaining larval maturity. Pupation, the stage of development where the worm-like larvae metamorphosis into the more familiar oval or round, convex above adults, will take place on the plant they have been inhabiting or more often on an adjacent fence or tree trunk. In a few weeks the adults emerge from a dorsal slit in the pupal case and again begin to feed on the available insect hosts. Rarely, adults will sometimes nibble on the plant itself if adequate insect food is not readily obtainable. Mating occurs within a short period following adult emergence with the eggs for a new generation carefully placed on another insect infested plant. Depending on the species of coccinellid and where it occurs in the state, there may be two or three generations a year.

Mention should also be made concerning the adult insect's usually bright coloration which is

MATURE LARVA OF THE CONVERGENT LADYBIRD BEETLE.
(Photo: A. Taylor)

commonly patterned in black with contrasting red and orange. The significance of this display is based on the theory that an amber-colored fluid secreted by the adults is noxious to potential predators, especially birds, and that the beetles are advertising that fact. Another interesting note is the tendency for beetles mostly red or orange in color to feed on aphids, while the primarily black species specialize on mites, scale insects, and whiteflies. There is currently no scientific explanation for this relationship of adult coloration to food preference.

The following examples are some of the more common and helpful of the ladybird beetles that can be found in California.

The Convergent Ladybird

One of the more abundant and well-known species of ladybird beetle in this region is the convergent ladybird, *Hippodamia convergens*. This beetle is 6 to 8 mm in length and is a bright orange in color with black dots in a variable pattern. Both larvae and adults dispose of aphid pests, especially those species attacking roses and citrus. The unique life history of this insect was unravelled a number of years ago by following the adult insects beginning with their large winter aggregations in the high canyons of the Sierra Nevadas and the coast ranges. It was observed that in the spring adults became active and took advantage of the prevailing winds to carry them from the mountains to California's central valley and coastal margins, where they halt their journey and begin to feed on the exploding aphid population. In southern California when the winds are too strong, as with those associated with a Santa Ana condition, many of the beetles are blown out over the Pacific Ocean and perish, which explains the thousands of dead beetles that line the spring hightide mark on many beaches. At one time, people took advantage of the large overwintering populations, collecting them and keeping the insects refrigerated until the spring when they were sold for release in gardens and orchards. Unfortunately, it was soon learned that before adults settle and begin to feed, they must first fly and burn up a certain amount of stored carbohydrate. Therefore, as the newly released adults warmed up and became active, they would take wing and benefit plants in someone else's yard.

As summer approaches and the number of aphids are reduced as a result of the climbing beetle population, the ladybirds again begin to return to their winter residences in the mountains.

ADULT OF THE CONVERGENT LADYBIRD BEETLE.
(Photo: D. K. Faulkner)

The California Ladybird Beetle

A reddish-orange beetle usually devoid of dark spotting and possessing a black thorax, this insect is a common resident in central and northern California, but only rarely is seen farther south. This species, *Coccinella californica*, in contrast to the previous species, remains in one area for an entire season, becoming less active in the winter but not migrating away. Adults and larvae feed exclusively on species of aphid.

The Two-spotted Lady Beetle

The adult of *Adalia bipunctata* is quite conspicuous with its solid red color with two prominate black dots displayed on the wing covers. This ladybird is a smaller species than those previously mentioned, being between 4 to 5 mm long. Both larvae and adults readily attack aphids. Individuals are widely distributed throughout North America and Europe, and except for the desert areas are abundant in California.

The Two-stabbed Ladybird

The two distinctive red wing dots on a black background easily separates the species *Chilocorus orbus* from other coccinellid species. A less common form with a pale gray color and two black dots also exists. The larvae of this widespread species is black with a central yellow band and is adorned with many long and branched spines. The primary host for both larvae and adults includes many species of scale insects that are commonly found in the garden, especially armored and unarmored scales. This species is extremely beneficial as are the other members of this genus.

The Vedalia

An Australian import, *Rodolia cardinalis* has proven to be the first and one of the most successful of all introduced insects for the purpose of controlling biologically another insect pest. The 140 specimens brought to California in 1888 to control the cottony-cushion scale on citrus quickly spread and brought this pest under complete control within a year. In fact, the coccinellid did such a good job that it almost disappeared entirely from lack of its previously abundant food source. Today this insect can still be found in the citrus growing regions of the state. In appearance the adults are dark red, 3 to 4 mm in length, and are patterned with irregular black markings on the wing covers. The larvae are pinkish with black markings, and as with other coccinellids, feed on the same insect host as the adults.

The Mealybug Destroyer

Another introduction from the land Down Under, *Cryptolaemus montrouzieri* has shown itself to be of great help in controlling mealybugs in addition to other soft-bodied scale insects. The small, 2 to 3 mm in length adult beetles are shiny black with the head, thorax, and tips of the wing coverings somewhat reddish in color. The larvae, hatching from the yellow eggs that were individually placed near potential hosts, superficially resemble mealybugs themselves, although the mature larvae are significantly larger and more active than their prey. This insect is established year-round in San Diego County and has been mass reared in insectaries for release throughout the state.

These are just a few samples of the many economically important ladybird species that are found in California. When the biology of more of our native species is known, perhaps some will be introduced into other countries to assist in the control of other insect pests, benefiting both the agricultural community as well as the weekend gardener.

David K. Faulkner is Curator, Entomology Department, San Diego Natural History Museum.

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THE SPREADING HABIT OF 'PEACE' COUPLED WITH THE BEAUTY OF ITS BLOOM, MAKE IT A LANDSCAPING FAVORITE.
(Photo: D. Streeper)

HYBRID TEAS IN THE LANDSCAPE

DICK STREEPER

THE ROSE CAN dominate the landscape as no other plant. Because of its ease of growth and inherent beauty, it is commonly used in carelessly conceived landscape designs. But skillfully used, it can work wonders, and, it performs well under the worst of conditions.

Some Thoughts on Effective Use of Hybrid Teas

If landscape design were the overriding consideration, one would use floribunda roses, rather than hybrid teas in a garden plan. Floribundas are low-growing plants with blooms produced in clusters of flowers smaller than those of hybrid teas. The floribunda-flower forms, except for hybrid tea-floribunda types, do not include a high pointed center with circularly arranged petals, common to hybrid teas.

The classic flowers for cutting are hybrid tea roses. They produce blooms which most people consider the model of perfection. Mature blooms, 4 to 6 inches in diameter, average 30 to 50 petals uniformly arranged in rows in a circular outline from a pointed center opening to a plane perpendicular to the stem.

Although floribundas have never been as

popular as hybrid teas, nearly all floribundas on the market have both an abundance of blooms and good bush habit. Therefore, in using hybrid teas in the landscape, it is necessary to select varieties with these qualities which lead to success in the landscape.

The plant must produce quantities of bloom, which is more important for the landscape use than quality of flower form. The plant should bloom heavily with clusters of blooms and not one bloom to a stem, repeat rapidly, and remain attractive with age on the plant. This requires that the plant bloom more like a floribunda.

The plant must be vigorous and produce new growth freely from the base each year. It must also produce a large quantity of sturdy flowering wood and be relatively free from serious insect problems and fungus diseases. If the plant is to be grown in cold climates, resistance to winter dieback is an important consideration. Most new varieties, and especially those with an AARS (All American Rose Selection) certification, are adequately vigorous.

Depending upon personal preference, fragrance can be an important consideration. It is possible to complete a landscape design consisting solely of intensely fragrant varieties. Fragrance is affected by factors such as age of the blooms, humidity, and time of day. Some blooms become intensely fragrant only after being cut. Garden site selection can significantly affect the amount of fragrance produced by a given variety.

Color and plant habit are factors which must be considered with planning a hybrid tea landscape garden. Attention must be given to those varieties which grow tall and upright and other varieties which do not grow tall but grow with a spreading habit. Care should be taken in combinations of colors; some are great while others can be unattractive.

The garden design must be developed before choosing varieties. In my opinion, roses lend themselves best to a formal design. Natural designs and Japanese landscape architecture are alien to rose design. Geometric patterns work well for a rose garden as do strong focal points and axis. Beds should be designed around walks or other architectural features which lead to an accentuated point or object. Most schemes work best where the number of varieties is limited and plants of one or only a few varieties are used.

Try to know the growth habit and color of the roses selected for a landscape garden. Selection based upon experience and observation is important. Some plants other than hybrid tea roses will have to be included to take care of problem areas.

The following table lists hybrid tea roses that do well as landscape subjects in San Diego County. They are listed by growth habit as tall, about 5 feet in late summer, and medium, about 3 feet in late summer.

TALL GROWING 'BEWITCHED' ROSES PROVIDE A MULTITIDE OF PINK-ROSE COLOR.
(Photo: D. Streeper)

RED	
'Futura'	tall
'Chrysler Imperial' (fragrant)	medium
PINK	
'Century Two'	medium
'Bewitched'	tall
'Duet'	medium
'Friendship'	medium
YELLOW	
'King's Ransom'	medium
'Summer Sunshine'	medium
WHITE	
'Honor'	tall
MAUVE	
'Heirloom'	medium
BLENDS	
'Granada' (fragrant)	tall
'Color Magic'	medium
'Peace'	medium
'Pristine'	medium
'Double Delight' (fragrant)	tall

Dick Streeper is a lawyer, garden writer, and amateur gardener. He is the founder of San Diego's municipal rose garden and participates in its management.

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MY NEIGHBOR'S GARDEN

ROSALIE GARCIA

EVERYTIME I TAKE a walk I pass a garden that fascinates me. It is in an unlikely place, with many negative features that would defeat most gardeners, but this one thrives with a continuous crop of rare and common fruits, vegetables, and flowers. Not a weed or a blade of grass is ever visible—only controlled planting.

The garden slants up to a busy street, faces north, and is between two, two-story apartment houses. Four olive trees grow outside a wire fence in front and a driveway runs down the west side to the home in the middle of a 165-foot-long lot. (This estimate is mine and not neasured.) I see glimpses of a drying yard in the back, a small garden house, and some fruit trees.

One can walk from the street down the driveway and peer into the side of the garden which, in my curiosity I did and do. Since we have no language in common, he suspects me of I don't know what, but it is evident that he does not really want me looking around. No smiles or signs I make that I am trying to be complimentary and friendly have any effect. I am not welcome, and I understand that.

I doubt if my neighbor has studied landscape architecture or horticulture, but I have not seen any professional jobs that surpass his layout, spacing, choice of plants, and overall effect. There are mature fig, apricot, and peach trees, flowers and vegetables in season in neat builtup rows, and sometimes a row of berries. The red soil appears to be sandy. Over to one side is a bin about 3 by 4 feet filled with composting trimmings from the garden. This is the only sign of fertilizer, but I am reporting only what I can see. Both overhead and deep irrigation are used, it appears, but no hoses are visible.

His winter garden has more of the vegetables not common to the average garden. It is less colorful because of many rows of fava beans with their gray-green foliage, artichokes, a short row of edible-podded peas, nearly 6 feet tall and well supported on a wire trellis. Nothing in this garden is floppy or rickety. A master hand sees to it that the plants are supported and spaced so they grow to their advantage.

In late summer and fall the artichokes are prominent, several rows of them taking up a section near the front fence, where I can watch their growth. They start as small plants and develop into spreading fans and central stems, with the edible buds. Each stalk bears several buds and sometimes my neighbor leaves a few to mature and open into big fuzzy masses of beige color, which are often sold as ornamentals, after being sprayed.

The trellis near the center of the garden always has something growing on it. I see many varieties of beans. One of the most colorful is the scarlet runner, long pods of beans maturing in cool weather. There are the blue lake and the bountiful Kentucky wonders in summer, only a few vines of each, but do they produce!

Not many people, unless of French descent, use space for the flageolet bean, for it is of the bunch variety, but I thought I saw it in this garden. Shelled when green and served with roast lamb, flageolet beans are a French delicacy much treasured by many gourmets.

Green soy beans are not available to many of us in this country, but this garden once had rows of them. It takes three months for them to mature, but they are heavy bearers and are relished by many people. In Japan the green pods are boiled whole in salted water and eaten with soy sauce as the beans are squeezed out of the pod.

The cabbages are not neglected in this garden. When he grows the large heads, he spaces them so they are decorative rosettes in rows and he may throw in a few plants of red cabbage for variety and color. Any non-cabbage-lover would have to admire these beautiful "heads." One thing I have never seen is an insect hole or a brown spot.

At times he has grown cauliflower, not in quantity, but he has even grown the purple variety which turns green when cooked.

His broccoli buds are bouquets of freshness and crispness. Even the leaves are tender and fresh looking. At times he grows different early and late varieties, for he seems to pull up the plant instead of cutting out the head.

He, also at times, has Brussels sprouts, mostly

of the early type, for he pulls up the stalk when it has a good crop of heads.

My neighbor must like carrots, for there is almost a continuous row of the ferny tops in some stage of growth. I am not sure which varieties he favors, but since all carrots are slow growing, he may choose those that do well in different seasons. I once noted what I thought were the French or 'Sucram' carrots, which one seldom sees except canned or in gourmet foods. They are about one inch long, bite size, very sweet, but take about 70 days to mature.

There are always greens of some kind, common and uncommon, tucked in here and there, but so vigorous and succulent that one bunch would be enough for a meal. Ruffly kale (perennial if the core is left and only the outer leaves are cut) is said to have more minerals and food value than any of the other greens. Even so, kale is lost on me, but it is tolerable with spinach or turnip greens. I have not noted turnips or turnip greens, but maybe I have missed them, and maybe he thinks of turnips what I think of kale. That big leaved mustard appears at times, but takes so much space, he may like something else better.

Several rows of onions from sets appears every winter and results in bunches of white onions drying on the trellis in summer.

One summer I saw a large red leaved plant that I thought was the edible amaranth (spinach). It is quick growing, ready to eat in four to six weeks, sort of mild and edible if mixed with other greens. It is said to be very good for one.

Over the years, five of them, I have noted many interesting plants and superb growing practices in this garden of my neighbor whose friendship I have not been able to enlist. I keep hoping that one day we two vegetable lovers can break this language barrier and become gardening friends.

Rosalie Garcia, as a child, was learning to garden from her grandmother and gardening has been a part of her life ever since. She has written for *California Garden* for over 18 years and has lectured on herbs, rare fruits, and unusual vegetables.

FLOWER ARRANGER'S HINT:

WHEN CUTTING ROSES FOR ARRANGEMENTS, TAKE A DEEP PAIL OF HOT (NOT LUKEWARM) WATER TO THE GARDEN. AS THE ROSES ARE CUT, STRIP THE LEAVES AND THORNS OFF THE BOTTOM 3 TO 4 INCHES OF THE STEM. PLACE THE ROSES IN THE PAIL OF HOT WATER AND LEAVE OVERNIGHT IN A COOL PLACE. WITH THIS TREATMENT, THE BLOOMS WILL LAST AS LONG AS A WEEK. S.C.

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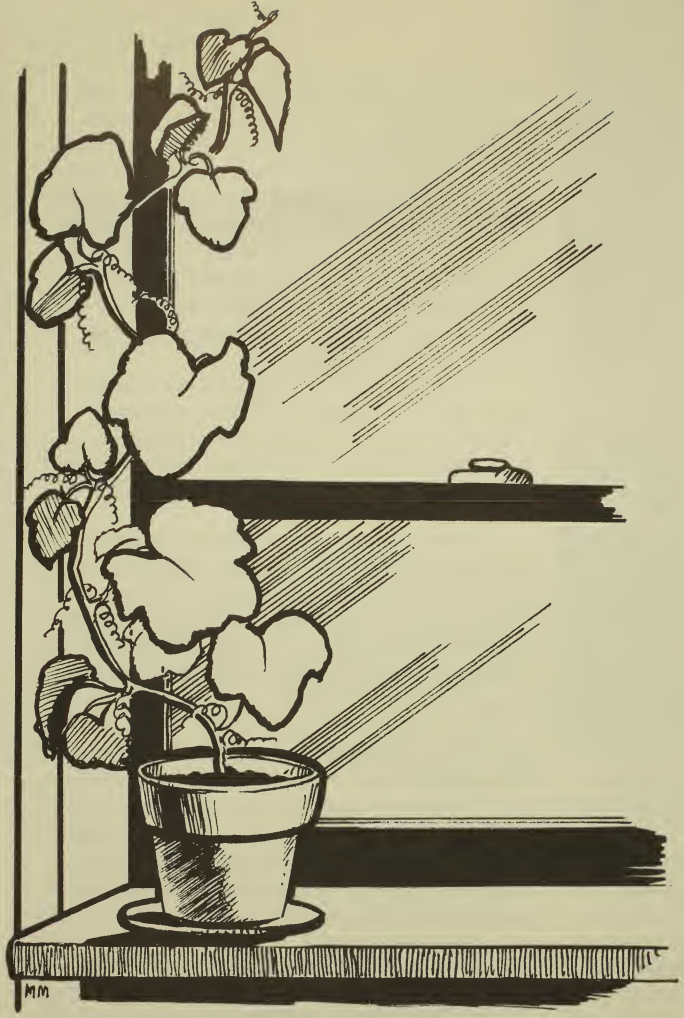

AFTER-DINNER GARDENING

DEWEY DEBUTTS THAISZ

Drawing by MARJ MASTRO

WHEN ONE SAYS "after-dinner gardening," most people will immediately get a mental picture of retiring after dinner to the back yard for a relaxing and productive evening digging in the vegetable garden. The type of after-dinner gardening I am referring to is a bit different. I am talking about saving the seeds from the lemon meringue pie you may have had for dinner, or any other seeds that you normally throw away, and planting them to yield inexpensive and rewarding indoor or outdoor plants.

Not many of us even think about the scores of free indoor plants we throw away in one month. Everyone knows that the delicious avocado contains a seed that readily grows into a lush, green, long-leaved tree suitable for the most fastidious home decor. But the indoor gardener with a sense of adventure, a little patience, and a hearty inquisitive appetite can grow a large collection of plants from the seeds and shoots of pineapples, carrots, yams, Jerusalem artichokes, kiwi fruit, dates, grapes, bananas, and the entire citrus family; not to mention less common supermarket items such as sugar cane, pomegranates, loquats, litchi

nuts, mangoes, and many more. Let us consider just a few of the interesting meal tidbits that can be turned into indoor garden plants.

The next time you buy grapes save the seeds. Grapes are among the easiest seeds to plant for an after-dinner garden because they germinate in almost any soil, are easy plants to care for while growing into mature plants. Plant the seeds in a mix of sterile soil. Give the seeds several weeks to germinate, stakes to climb on, and you will have 10-foot plants the first season. They climb quickly and gracefully and can be trained to edge the window frame with a green leafy border. Most indoor plants bear little or no fruit due to their confinement in pots and the indoor environment, so do not expect to be bottling your own wine unless you transfer your grape plants to a warm outdoor garden in full sun.

The pineapple, which is both attractive and unusual, is another easy plant for the after-dinner garden. Select a pineapple with a full crown from the produce department. Lob the crown off, leaving on about 1 inch of the fruit and plant the vegetative portion in a shallow pot containing acidic soil. Coffee grounds supply the acid necessary in a mixture of three-fourths packaged soil and one-fourth used coffee grounds. The pineapple is in the bromeliad family, which has a minimal root system, and in the wild takes most of its nourishment from the air through its leaves. However, container grown plants need to be fertilized frequently. Drench the entire plant with one-half strength fertilizer. Water only when the plant gets good and dry, then give it a good drenching. When firmly rooted, new shoots or aerial suckers appear on the parent plant. After about six new leaves have developed, the new growth may be removed to start a new plant.

Another unusual indoor plant is the papaya, reputed to be one of the easiest of all tropical plants to grow. The fruit contains hundreds of seeds, each wrapped with an aril, or its own blanket, to preserve it from deterioration until conditions are proper for germinating. Remove the aril by rubbing a handful of seeds on a screen under running water or squeezing the seeds slightly off center between the fingers to make the seed pop out of its container. The latter method slightly resembles the technique used to "shoot" watermelon seeds at an unsuspecting target.

After the aril has been removed by the method of your choice, place the seeds in a shallow pan on partially soaked cheesecloth and cover the pan with plastic food wrap. The seeds will start sprouting in one to six weeks and should be transferred immediately to a clay pot with a rich, loose soil. The fine roots are very sensitive to standing water and will rot within 48 hours, so a loose, fast-draining soil in a porous clay pot to aid aeration has proven to work best. Give the seedling papaya no more than one hour of direct sunlight a day but lots of diffused light. After it reaches about 3 inches in height it requires an exceptional amount of direct sunlight.

One strange fact discovered about a papaya plant is that it is sensitive to ethylene, a common constituent of automobile exhaust and industrial waste. While you may have trouble growing papayas in air polluted cities, you can probably grow them to unmanageable sizes in the suburbs.

From these few examples, you can see that after-dinner gardening is a rewarding and economical way to turn kitchen wastes into a living room conversation piece. Start now to plant those seeds that you normally throw away. You will soon have an after-dinner garden that you and all your friends will enjoy.

Ref: *The After-Dinner Gardening Book* by Richard W. Langer.

Dewey Thaisz, a free-lance garden writer, is an avid gardener. Her occupation is technical writer in the computer industry and she is a part-time student at San Diego State University.

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HYBRID TEA HIGH HOPES

TOM CARRUTH

'DOUBLE DELIGHT' THEIR FRAGRANCE IS MAGNIFICENT. THE COLOR OF THE BLOOMS CHANGES CONSTANTLY AND WHERE SUNLIGHT STRIKES THEM, THE EDGES TURN PINK OR RED. (AARS Photo)

WITH THE ARRIVAL of the tea rose from China in the late 1700's came the beginnings of what is now considered by many as the ideal in rose-flower form. Today's generation rarely perceives the rose as anything but a continual bloomer with large long pointed buds, exemplified in the modern hybrid tea. In the 'topsy-turvy' world of rose hybridizing, these desirable qualities of the tea lines are ironically, the most elusive. The current rose possesses a broad mix of genes from many species (guesstimates indicate about seven). Floribundas, grandifloras, hybrid teas, and now miniatures have been so widely intercrossed that a genetically pure example of any of the classes is virtually non-existent amongst the most modern varieties.

Up until the late 1800's, most roses bloomed only once a year, in either spring or summer. But since the genes of the tea rose now predominate, the recessive character of continual flowering is easily recaptured when hybridizing amongst the modern cousins. However, just one pollination with an older once-blooming rose will produce mostly once-blooming offspring.

When combining the hybrid tea with a miniature, the seedlings quickly lose another of the popular qualities, large flower size. Oddly enough, even the largest flowered will produce 'children' with small blossoms and foliage when a miniature is utilized as the second parent. Only in the next two or three generations can large flowers be recaptured in a portion of the progeny. Loss of the hybrid tea flower size is much less dramatic when hybridizing against the floribundas or grandifloras, especially the newer cultivars. Yet the cluster flowered quality of the floribunda will show up in most of the resultant seedlings. But who's to say this is undesirable for the home gardener?

A second cross between two very diverse types, such as the hybrid tea and the genetic climbing rose, will usually yield only climbing offspring. As in the case with the miniature cross, another two or three generations of hybridizing will recapture some 'children' with the hybrid tea habit of long stems and upright growth.

A very desirable characteristic of the hybrid tea is the classically spiraled flower form. This quality is somewhat more cooperative in hybridizing and can be captured in the most broad of crosses. When evaluating the newest rose classes (i.e., ground covers, hanging basket types, shrub-landscape types, etc.), hybridizers and marketers will give higher points for salability if the flower has even the slightest resemblance to hybrid tea form.

On the negative side, the older tea lines have carried along some less desirable qualities which are

'DUET' THE LONG LASTING BLOOMS OF WARM SALMON PINK AND THE VIGOROUS AND TROUBLE FREE GROWTH OF THIS HYBRID TEA HAS MADE IT A FAVORITE OF MANY GARDENERS. (Photo: Betty MacKintosh)

easily transferred to the offspring. A hybrid tea characteristic, slow spindly growth, which frequently appears in the seedlings, cannot be tolerated in the new rose introductions. The hybrid teas are particularly intolerant of cold temperatures and are susceptible to winter kill in harsh climates. This bad trait has yet to be seriously treated by the hybridizers with much success.

The tea bloodline is filled with both blessings and curses. But the American love affair with the hybrid tea demands that the rose breeders strive to gradually mold new varieties, while maintaining their resemblance to the current ideal.

Tom Carruth has been involved in rose breeding since receiving a Master's degree in plant breeding from Texas A & M in 1975. He currently leads Armstrong Nurseries' rose breeding program of florist varieties.

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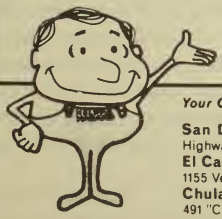

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50 YEARS AGO

by Carol Greentree

June 1934

Drought Resistants By K. O. Sessions

. . . Dry Season Provides Opportunity for Valuable Observations

This very dry winter has brought to my attention the plants that are looking well and flowering that have had no watering except the small rainfall. *Leptospermum laevigata* in large plants are in fine condition and showing a thrifty new growth. The *Grevillea thelemanniana* and *Banksia* are full of flowers daily and foliage very thrifty. Most of the acacias are looking well but they were shy of flowers and no seed forming except in a few species and one variety, the *leptoclada* has much seed, but I gave that plant water a few times....The junipers in evergreens all look well and especially the prostrate growers that help out for sloping banks in place of grassy lawns.

The *Hakea pugioniformis*—that bush evergreen—is remarkable in its greenness at this season and so very fine near the bay and ocean....The bougainvilleas have been very showy—the 'Crimson Lake' in particular everywhere has been remarkably brilliant—so full of flowers and an absence of green growth. The mild winter and dry conditions both have been responsible. Visitors to the city are charmed with its glorious color. We should plant it more generously.

The blue plumbago, established plants are holding up well with their flowers though the new growth has not been conspicuous unless plants have been watered. Our native shrubs, the winter blooming *Ceanothus verucosus*, the bright yellow tree poppy, *Dendromecon rigidum* has been very showy on Torrey Pines grade, also in my own garden. The *Rhus integrifolia* has in no instance shown a faded leaf but the Christmas berry (Ed. toyon, *Heteromeles arbutifolia*) is not looking quite as robust and fresh as it generally appears but it is holding its own, but generally at this time it is bright with new growth. The native wild cherry, *Prunus ilicifolia*, is in good condition. This shrub needs to be more cultivated and appreciated. The *Eucalyptus corynocalyx* or sugar gum, the *E. polyanthemos* or round grey-leafed variety and *E. cornuta* variety *Lehmanii** are all in fine condition and are three very wonderful growers under dry conditions. They need care when very small and are first set out: and after their root system is established they are safe against drought.

The mesembryanthemums have been shy of flowers but the dry winter has been most beneficial for seedlings to develop. The bare ground in my garden is well dotted with seedling plants in variety and many are blooming when very small and a few show variations in color.

The aloes have seemed particularly generous with their bloom and some new varieties are later bloomers which is a desirable feature. The *Aloe distans*, the prostrate grower, and *mitri formis* and *grandis*** have been about the latest bloomers, also the border variety *minima*,** is now coming into fine bloom for May and June.

The perennial statice plants have been flowering well, also the annual sort, *sinuata*, in various colors. *Euphorbia splendens* is a remarkable plant for dry contions, such a fine rich scarlet color and such free bloom....

Ed. note:

* *Hortus Third* now lists *Lehmanii* as a separate species.

** *Aloe grandis* and *A. minima* are not listed in *Hortus Third*.

May 1934 By Dean Blake, Weather Bureau

What Causes Our Hot Dry Winds

...It so happens that the pressure distribution most favorable for these winds obtains from September to November, and it is during these months that our hottest days are most frequent. They occur, however, at any time of the year, and spells of warm, dry weather can be expected in all months.

In southern California, we know them as "Santa Anas" or "desert winds." The origin of the term is somewhat obscure. One explanation is that it is a corruption of the Indian word "Santanta," meaning "wind of Satan"; another is that it was named after the Mexican general Santa Ana, who bore quite a reputation for ruthlessness. The generally accepted explanation, though, is that they take their name from the region of their greatest frequency, which is along the Santa Ana River. Be that as it may, they are the most trying and the most unwelcome atmospheric visitation that we have in our fair Southland.

Book Reviews

Review by SHARON SIEGAN

All these books are in the horticulture library, San Diego Floral Association.

The new WILD FLOWERS and How to Grow Them, Edwin F. Steffek, Timber Press, P.O. Box 1631, Beaverton, Oregon 97075, 1983. $22.95 (paperback).

Steffek writes with an unusual twist; he promotes conservation by urging concerned groups and individuals to carefully study wildflowers in their native habitat—and then propagate them. Depending on state laws, this may involve transplanting, cuttings, or seed collecting. Steffek strongly feels (and is supported by the New England Wild Flower Society which sponsored the book) that without positive efforts at growing these plants, they will sooner or later fall victim to developers or other hazards and be lost to us.

The book provides geographic breakdowns of wildflowers, listing those which can be picked. Detailed habitat and cultivation descriptions along with full color photographs aid identification. Wildflower conservation would make a wonderful project for any garden club—using the new WILD FLOWERS as inspiration and primer.

THE CARE AND FEEDING OF TREES—by Richard C. Murphy and William E. Meyer, Crown Publishers, New York, New York, 1983. $5.95 (paperback).

This cover of this new, updated edition promises "planting and transplanting, diagnosis and treatment of disease, fertilizing, pruning, shaping and methods of fighting the gypsy moth plus much more." All of this it delivers—the "much more" covering suggestions for landscaping with trees and a series of charts that include lists of trees by size at maturity, rate of tree growth, bearing ages of fruit trees, preferences for acidity or alkalinity, etc. There is also a homeowner's guide to popular trees, most of which are of Eastern habitat.

This book is a handy size, packed with much common sense and useful information. It concentrates on deciduous trees, their needs and problems, so for the Southwestern gardener, it would probably require supplementation.

SMALL AND BEAUTIFUL FLOWER ARRANGEMENTS, Marion W. Johnson, Clarkson N. Potter, Inc., New York, 1983. $10.00.

Johnson believes in tucking greenery into small receptacles and using the resulting arrangement as part of an intimate decorative setting. This delightful little book offers beautiful color photographs of her own accomplishments, along with suggestions for obtaining floral materials, selecting containers and enhancing the whole by clever placement—and perhaps, unusual accessories.

GARDENING BEAUTIFULLY IN SOUTHERN CALIFORNIA, Betty Newton, Roylston Press, El Cajon, CA 1983. Price ?

This slim paperback consists of a set of 32 columns previously published in San Diego newspapers. Each column is short and topical, covering such subjects as drip irrigation and growing plants from cuttings. The book is completely geared to anticipating the needs of the San Diego gardener—e.g., a nice touch is the inclusion of companion plantings for camellias. *Gardening Beautifully* . . . is enjoyable reading but could benefit from better editing.

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compiled by PENNY BUNKER

NOW IS THE TIME

A CULTURAL CALENDAR OF CARE FROM OUR AFFILIATES

BEGONIAS Margaret Lee

Now is the time—

- to continue feeding plants on a regular schedule, using ¼ strength once a week, as they are in active growth.
- to water as needed; keep moist but not wet.
- to keep mildew under control as well as insects, slugs, and snails.
- to keep growing area clean. Remove all dead leaves and old blooms.
- to prune plants for shaping and to encourage side-growth; do this gradually, about 1/3 of the plant, to avoid shock.
- to repot if needed; use a light porous mixture.

BONSAI Dr. Herbert Markowitz

Now is the time—

- to develop a watering schedule. Avoid over-watering on overcast days, especially the pines.
- to pinch back cypress and junipers for dense growth, using tweezers or fingers to pluck off the tips at the joint. Do not use scissors (causes ends to turn brown).
- to defoliate deciduous trees in June. They may be transplanted afterwards.
- to shape deciduous trees.
- to fertilize trees with an organic fertilizer. Do not overfeed the pines.
- to check for insects; use a mild insecticide, if necessary.
- to control any mildew that may appear; use sulphur dust or a liquid spray.
- to rotate trees often to maintain proper shape.

BROMELIADS Linda Prell

Now is the time—

- to check and take action if scales, mealybugs, spider mites, aphids, snails, or slugs are found on plants. Remember to place snail bait only on the soil, not in the cups.
- to remove pups that are at least 1/3 the size of the mother plant—this gives them time to grow to a good size before winter.
- to feed plants a balanced fertilizer at ½ strength once a week (feed with regular watering, if using liquid).
- to check plants for sunburn, especially if they were moved into sunnier areas for the winter.
- to keep cups clean and filled with water.
- to maintain humidity around plant areas as the climate changes to drier conditions.

CACTI & SUCCULENTS Rick Latimer

Now is the time—

- to make sure plants are getting enough sun and/or shade as needed.
- to maintain a regular feeding schedule. Feeding may be incorporated with the watering, if liquid fertilizer is being used. Fertilize at ¼ strength once a week rather than once a month at full strength.
- to be careful not to wash off the chalky covering of some succulents or the "wool" on some cacti, when watering.
- to take immediate remedial action if scale, mealy-

bug, red spider, aphids, or nematodes are found.
to begin watering euphorias (some are winter growing).

CAMELLIAS San Diego Camellia Society
Now is the time—
to transplant plants that have started new growth.
to repot plants that have outgrown their containers.
to start a feeding program. Use an acid type fertilizer—cottonseed meal, special camellia mixes, or liquid fish. Use a little less than recommended amount which might be too strong.
to water well the day before feeding—never fertilize a dry plant.
to maintain a regular watering schedule. Do not allow plants to completely dry out.
to watch for leaf beetles; spray or dust to discourage.
to prune for shaping and thin out center wood for good air circulation.
to mulch plants with redwood compost, bark, or pine needles.
to feed iron, if needed, or give a handful of epsom salts.

DAHLIAS Abe Janzen
Now is the time—
to plant some smaller varieties.
to give regular care to growing plants.
to draw soil around the plants as they grow.
to feed with low-nitrogren fertilizer (4-10-10), either dry or liquid.
to spray weekly to guard against leaf miners, thrips, and aphids.
to pinch out center when two or three sets of leaves form.
to water when top of soil is dry. When buds are forming, soak deeply and more often.

EPIPHYLLUMS Frank Granatowski
Now is the time—
to sit back and enjoy. Properly cared for plants will reward you with an abundance of beautiful spectacular blooms.
to cross-pollinate as soon as blooms open. However, pollinate with definite goals in view. Bees and other insects may be helpful, but they are not very selective.
to remove spent and wilted blooms by cutting about ½ inch from the base of the flowers, using a sharp knife or pruning shears. Cut flowers for display purposes the same way.
to continue good grooming of plants by pruning older branches that are no longer productive, i.e., branches on which many of the areoles are calloused and scarred from previous blooms. These cuttings can be used to start new plants.
to protect foliage from hot summer sun. Keep plants in filtered sunlight.
to bait for slugs and snails; a few granules of Sluggeta at the base of the plants is an effective control.
to water regularly. Keep moist but not wet. Avoid injury to blooms by base watering or low-pressure fine spray. Do not allow soil to completely dry out.
to repot last year's cuttings that have outgrown their containers.
to attend the many local shows. This is an excellent opportunity to meet other growers, exchange ideas, and to add new plants to your collection.

FERNS Ray Sodomka
Now is the time—
to remove dead fronds.
to plant spores.
to spray for aphids and scale, if necessary.
to water thoroughly and maintain humidity by wetting surrounding areas.
to use high-nitrogen fertilizer, liquid or pellets twice a month.

FUCHSIAS William Selby
Now is the time—
to watch for insects and pests. Spray or use a systemic eradicator if they appear. Use recommended amount by manufacturer, or less—too much is a sure way to burn. Do not use any oil spray.
to change fertilizer to 5-10-10 for lush growth and abundance of large blooms.
to pinch for shape and bushier growth; plants will double in size and in bloom.
to watch for dry plants, especially on hot or windy days. Do not allow plants to dry out; keep damp but not wet. You might mist plants to wash off dirt and grime that collects

on foliage.
to be sure to water an hour or more prior to application of an insecticide.
to be alert for snails—use metaldehyde or other bait according to directions.
to keep plants clean of debris and spent blooms.
to turn baskets regularly so they do not become one-sided.

GERANIUMS Carol Roller
Now is the time—
to water thoroughly when plants become somewhat dry. Allow excess water to drain away. Keep foliage as dry as possible.
to continue feeding a balanced fertilizer dissolved in water, using at ½ the recommended strength, as often as needed to keep plants growing well.
to continue a pest control and disease prevention program. Use all products according to the manufacturer's directions.
to groom plants, removing discolored leaves and faded flowers.
to avoid taking cuttings from regal pelargoniums, since this is their flowering season. Cuttings may be taken from ivies and zonals, if desired.
to protect tender plants from the sun when the temperature is high.
to continue to rotate plants on a regular basis in order to produce well-shaped plants.
to enjoy your geraniums at the height of their season.

GESNERIADS Mike Ludwig
Now is the time—
to be on guard for mealybugs, scale, aphids, and ants. Treat with a non-oily spray to prevent damage to foliage.
to watch the movement of the sun. Make sure no plant is getting more sun than it needs or burning of leaves will occur.
to observe your plants when watering on cloudy or hazy days and do not allow them to stay too wet or to dry out.
to watch temperature changes, especially inland; mist foliage in mornings and evenings on hot days, but do not water in the morning on hot days.
to keep spent blooms picked off.
to pinch plants to keep them lush and full.

IRIS San Diego-Imperial Counties Iris Society
Now is the time—
to continue watering while plants are still blooming.
to transplant tall-bearded after blooming.
to prepare beds for planting and transplanting. Work in humus, soil sulphur, and some decomposed manure.
to allow cut surfaces of tall-bearded rhizomes to dry and be exposed to sunlight before planting. Give a light dusting of soil sulphur on the cuts.
to feed spurias with a low-nitrogen fertilizer.
to feed Siberians after bloom with a well-balanced fertilizer to form bloom for next year.
to feed Louisianas with a balanced food, but wait until June to dig and transplant.
to feed Japanese iris with camellia food; add to water in which they are growing.
to watch for aphids; may use a systemic insecticide.

ORCHIDS Charlie Fouquette
Now is the time—
to spray and mist on hot dry days.
to control snail and slugs. Metaldehyde granules are effective.
to maintain pest control against red spider, mealybug, and/or scale. Malathion or other non-oily spray may be used.
to mist seedlings in early morning or afternoon so they are dry by nightfall.
to start feeding high-nitrogen fertilizer to cymbidiums, and a complete fertilizer to cattleyas and phals.
to start a high-nitrogen fertilizer on nobile dendrobiums as they are actively growing.
to continue heavy watering on cymbidiums.
to repot cattleyas that are showing new growth.
to transplant "kikis" (offshoots) of phals when roots are ½ to 1 inch long.
to check and paint glasshouse in areas getting too much sun; erect shade cloth in areas getting too much light.
to keep exterior planting media moist.

ROSES Brian Donn
Now is the time—
to keep bushes well-watered during hot dry spells.
to avoid spraying with insecticide or fungicide

when very hot.
to use preventative spraying for mildew control.
to watch for red spider mites. If detected, wash the foliage and canes with the garden hose early in the day and allow to dry. Next day spray thoroughly with a mitecide, wetting every leaf and stem. For maximum control, spray 3 times at 5 day intervals.
to feed established plants with a complete rose food with trace elements (iron, zinc, manganese) or apply these separately.
to feed newly planted bushes with weekly feedings of diluted plant food.
to mulch bushes to keep the roots cool and save water.
to remove spent blooms.

VEGETABLES

Now is the time–

to plant seeds of beets, carrots, turnips, radishes, snap beans, both bush and pole, summer squash, corn, and cucumbers. Or put in small plants of summer squash and cucumbers if they are available from the nurseries. They will produce crops sooner than those started from seed.
to plant leafy vegetables such as lettuce, endive, and spinach in locations which are partially shaded during the warm summer months.
to fertilize vegetables growing in good soil (except corn, lettuce, and tomatoes) every three or four weeks and those in poor soil or where they are in competition with roots of other plants, more frequently.
to fertilize lettuce once it is half grown.
to fertilize tomatoes once a month after fruit has formed, but not before.
to use a fertilizer that is blended for vegetables and follow directions on the container for the amount and methods of application.
to water in furrows, by flooding, or by drip irrigation instead of sprinkling. Sprinkling can increase the amount of disease on some kinds of vegetables.
to plant later, when weather is warmer, lima beans, winter squash, watermelon, and cantaloupes.

GREEN THUMB ITEMS

Now is the time–

to cut off faded dried bulb foliage and tie back other foliage to dry naturally before removing.
to feed hibiscus, bougainvillea, and other subtropicals when warm weather starts active new growth. To continue monthly feedings of azaleas, and summer annuals; feed tuberous begonias once or twice a month.
to plant gladiolus bulbs for fall bloom.
to plant transvaal daisies with the crowns set high in well-drained soil and in full sun. Planted in clumps of 3 to 5 they are effective in mounds or borders.
to plant in June agapanthus, daylilies, Shasta daisies, etc.
to pinch chrysanthemums for bushier plants with more buds in the fall.
to select blooming plants such as fuchsias, gardenias, roses, daylilies, etc.

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HORTICULTURE CALENDAR
(Continued from page 66)

MAY 26, 27

SAN DIEGO BOTANICAL GARDEN FOUNDATION ANNUAL PLANT SALE
Casa del Prado, Patio "A", Balboa Park, San Diego
Sat: 10:00 a.m. to 5:00 p.m. Sun: 10:00 a.m. to 4:00 p.m.

JUN 2, 3

SAN DIEGO CACTUS & SUCCULENT SOCIETY ANNUAL SHOW
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sat: 1:00 to 5:00 p.m. Sun: 10:00 a.m. to 5:00 p.m. Free

JUN 3

QUAIL BOTANICAL GARDENS DOCENT SOCIETY PLANT SALE & GARDEN TOUR
Quail Botanical Gardens, 230 Quail Gardens Dr., Encinitas, Calif.
Sun: 10:00 a.m. to 4:00 p.m. Free garden tours—11:00 a.m. to 3:00 p.m.

JUN 7, 14, 21, 28
SAN DIEGO FLORAL EVENT

THURSDAY WORKSHOP WITH COLLEEN WINCHELL
Free Floral Crafts Instruction Open to the Public
San Diego Floral Association Garden Center, Balboa Park, San Diego
10:00 a.m. to 3:00 p.m. Information: 479-6433 (Mrs. Winchell)

JUN 9, 16

OFFSHOOT BOTANICAL TOURS OF BALBOA PARK
Information & Fee: 297-0289 (Dale Ward)

JUN 9, 10

SAN DIEGO COUNTY BRANCH, NATIONAL FUCHSIA SOCIETY "GREEN THUMB" SHOW
San Diego Wild Animal Park, San Pasqual Rd., Escondido, Calif.
Sat. & Sun: 9:00 a.m. to 5:00 p.m.

JUN 10

SOUTHWEST HEMEROCALLIS SOCIETY 11TH ANNUAL SHOW
"SHADES OF MOTHER GOOSE"
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sun: Noon to 5:00 p.m. Free

JUN 14 thru JUL 1
SAN DIEGO FLORAL EVENT

"CALIFORNIA GARDEN" EXHIBIT & MAGAZINE SALE
Garden Section, Southern California Exposition, Del Mar Fair Grounds, Del Mar, Calif.
Daily: 10:00 a.m. to 5:00 p.m.

JUN 14 thru JUL 1

SOUTHERN CALIFORNIA EXPOSITION FLOWER & GARDEN SHOW
Del Mar Fairgrounds, Del Mar, Calif.
Sunday thru Thursday: 9:00 a.m. to 10:00 p.m.
Friday & Saturday: 9:00 a.m. to 11:00 p.m.

JUN 16, 17

NATIONAL CONVENTION AMERICAN ROSE SOCIETY SHOW "ROSES AWEIGH"
San Diego Hilton Hotel, 1775 E. Mission Bay Dr., San Diego, Calif.
Sat: 1:00 to 6:00 p.m. Sun: 10:00 a.m. to 4:00 p.m. Adm. $2

JUN 16, 17

SAN DIEGO FUCHSIA & SHADE PLANT CLUB SHOW
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sat: Noon to 5:00 p.m. Sun: 10:00 a.m. to 5:00 p.m. Free

JUN 16, 17

PALOMAR ORCHID SOCIETY "GREEN THUMB" SHOW
San Diego Wild Animal Park, San Pasqual Rd., Escondido, Calif.
Sat. & Sun: 9:00 a.m. to 5:00 p.m.

JUN 16, 17

SOUTH COAST CACTUS & SUCCULENT SOCIETY SHOW
South Coast Botanic Garden, 26300 South Crenshaw Blvd., Palos Verdes Peninsula, Calif.
Sat. & Sun: 9:00 a.m. to 4:30 p.m. Adm. $1.50

JUN 19
SAN DIEGO FLORAL EVENT

SAN DIEGO FLORAL ASSOCIATION 77TH ANNUAL MEETING
Covered Dish Dinner & Installation of Officers
Program: "Sound Agreement"—Barbershop Quartet directed by Fred Redman
Casa del Prado, Majorca Room Balboa Park, San Diego Tuesday 6:30 p.m.

JUN 21, 22, 23, 24

THE 1984 INTERNATIONAL BROMELIAD CONFERENCE & SHOW
Los Angeles Airport Hilton Hotel, Los Angeles, Calif.

JUN 22, 23

VENTURA BRANCH, NATIONAL FUCHSIA SOCIETY & AMERICAN BEGONIA SOCIETY SHOW
Buenaventure Fashion Center, East Main Street and Mills Road, Ventura, Calif.
Fri: 10:00 a.m. to 9:00 p.m. Sat: 10:00 a.m. to 6:00 p.m. Free

JUN 23, 24

LOMPOC ALPHA CLUB 32ND ANNUAL CITYWIDE FLOWER SHOW & FESTIVAL
Veteran's Memorial Bldg., South "H" & Locust Streets, Lompoc, Calif.
Donation: $1.50 (Children 12 and under free when accompanied with an adult.)

JUL 8

SAN DIEGO DAHLIA SOCIETY SPECIMEN SHOW
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sun: 1:00 to 4:30 p.m. Free

CALIFORNIA GARDEN (USPS 048-020)
San Diego Floral Association, Inc.
Casa del Prado, Balboa Park
San Diego, CA 92101 USA

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